MPEG2 artifacts detection algorithm consisting of pixel and field processing 120 and 140, respectively. The pixel processing is divided into gradient filtering 122 and identification of blocking artifacts 124. The identification of artifacts is divided into three steps including testing, artifacts counting and grid size counting. The gradient filtering and identification of blocking artifacts is implemented in hardware. The field processing includes blockiness and grid size procedures. The blockiness procedures are used by block level indication and grid position processing, and the grid size is determined using grid count values from MMIO registers to perform the calculation for a new grid size. The field processing is implemented in software design.

On page 6, approx. lines 20 –25, please replace the paragraph as follows (marked-up changes are shown on the attachment hereto):

The row or column entries for the table are divided into two groups for storing the values for incrementing (inc) or (inc-1). FIG. 2 shows example table sizes for the horizontal direction, with grid portions 210, 220 and 230 corresponding to previous grid sizes of 12, 10 and 8, respectively. Portions 212, 222 and 232 correspond to the inc-1 values, and portions 214, 224 and 234 correspond to the inc values. The increment value for horizontal direction is defined as:

Remarks

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A favorable reply is earnestly requested.

SEND CORRESPONDENCE TO:
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Tarrytown, NY 10591

By: _____
Name: Robert J. Crawford
Reg. No.: 32,122

Attachment

The above specification corrections are reflected below, with underlines showing inserts and brackets showing deletions.

On page 4, lines 7 – 21, please replace the paragraph as follows (marked-up changes are shown on the attachment hereto):

The present invention may be implemented in connection with a variety of applications. FIG. 1 shows one such implementation in which the artifact counting of the present invention is employed. An MPEG2 artifacts detection unit is adapted to detect the existence of artifacts in video sequences using gradient tests in both horizontal and vertical directions. An output from the detection unit represents an indication of blockiness in scanning the active region of pixel processing and of the grid size and origin of artifacts. Scanned data 105 is processed in an MPEG2 artifacts detection algorithm consisting of pixel and field processing 120 and 140, respectively. The pixel processing is divided into gradient filtering 122 and identification of blocking artifacts 124. The identification of artifacts is divided into three steps including testing, artifacts counting and grid size counting. The gradient filtering and identification of blocking artifacts is implemented in hardware. The field processing includes blockiness and grid size procedures. The blockiness procedures are used by block level indication and grid position processing, and the grid size is determined using grid count values from MMIO registers to perform the calculation for a new grid size. The field processing is implemented in software design.

On page 6, approx. lines 20 –25, please replace the paragraph as follows (marked-up changes are shown on the attachment hereto):

The row or column entries for the table are divided into two groups for storing the values for incrementing (inc) or (inc-1). FIG. 2 shows example table sizes for the horizontal direction, with grid portions [310] 210, [320] 220 and [330] 230 corresponding to previous grid sizes of 12, 10 and 8, respectively. Portions [312] 212, [322] 222 and [332] 232 correspond to the inc-1 values, and portions [314] 214, [324] 224 and [334] 234 correspond to the inc values. The increment value for horizontal direction is defined as: